

What is claimed is:

1. A high-security encoding device for remote controller, comprising:
 - a timer used to provide a transmitting time;
 - 5 a mode selector used to provide a mode select value;
 - a controller, by which an identity, said transmitting time, and said mode select value are received to generate a control signal;
 - a key;
 - an encryptor, which receives said control signal and applies said key to
 - 10 encrypt said control signal to a ciphertext; and
 - a RF modulator, which modulates and outputs said ciphertext.
2. The high-security encoding device for remote controller as recited in claim 1, wherein said timer is a 32 bits timer.
3. The high-security encoding device for remote controller as recited in
- 15 claim 1, wherein said key is a 64 bits key.
4. The high-security encoding device for remote controller as recited in claim 3, wherein said key is stored in a non-volatile memory.
5. The high-security encoding device for remote controller as recited in
- claim 1, wherein said transmitting time is four bytes in length, which is used
- 20 to check whether time difference between the timer of the encoding device and the timer of the associated encoding device is within a tolerance time.
6. The high-security encoding device for remote controller as recited in
- claim 1, wherein said mode select value is 2 bytes in length, by which a
- mode is chosen among the normal mode, emergency mode, and
- 25 synchronized mode according to actual need.
7. The high-security encoding device for remote controller as recited in
- claim 1, wherein said identity is 2 bytes in length, which is used for testing
- and verifying the associated decoding device.
8. The high-security encoding device for remote controller as recited in

claim 1, wherein said control signal is represented as plaintext

9. The high-security encoding device for remote controller as recited in claim 1, wherein said ciphertext is encrypted using a symmetric key with 64 bits in length.

5 10. The high-security encoding device for remote controller as recited in claim 1, wherein an initial value of said timer is a random number.

11. The high-security encoding device for remote controller as recited in claim 10, wherein said timer is realized by a logic circuit

10 12. The high-security encoding device for remote controller as recited in claim 10, wherein said timer is realized by the single-chip timing-interrupt method.

13. A high-security encoding device for remote controller, comprising:

a timer, which is used to provide a transmitting time, and said timer only timing a few seconds while said encoding device for remote controller is actuated in order to save electricity;

15 a mode selector, which is used to provide a mode select value;

a controller, by which an identity, said transmitting time, and said mode select value are received to generate a control signal;

a key;

20 an encryptor, which receives said control signal and applies said key to encrypt said control signal into a ciphertext; and

a RF modulator, which modulates and thereafter outputs said ciphertext.

14. The high-security encoding device for remote controller as recited in claim 13, wherein an operating method for the device comprising:

25 activating said encoding device;

activating said timer of said encoding device;

encrypting said transmitting timing and said identity of said timer, and said compelling synchronized mode value while sending out to an external decoding device to enable said decoding device to carry out a synchronized

action;

evaluating whether or not said decoding device is activated once again during a period of time;

5 if not, then stop timing, but a final timing value is still stored in memory;

if yes, then an encrypted signal containing no said compelling synchronized mode value is sent.

10